

**Docket No.: UPAP0002-100
PATENT**

**Serial Number: 09/359,975
Filed: July 23, 1999**

In the Claims:

Please cancel claims 115-121 and 141-165:

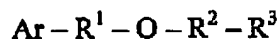
1-57. (canceled)

58. (Previously Presented) A composition comprising:

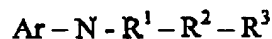
a) a polynucleotide function enhancer; and

b) A DNA molecule that comprises a DNA sequence that encodes an antigen from an intracellular pathogen; wherein

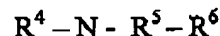
i) said polynucleotide function enhancer is a compound having one of the following formulas:



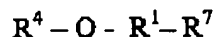
or



or



or



wherein:

Ar is benzene, *p*-aminobenzene, *m*-aminobenzene, *o*-aminobenzene, substituted benzene, substituted *p*-aminobenzene, substituted *m*-aminobenzene, substituted *o*-aminobenzene, wherein the amino group in the aminobenzene compounds can be amino, C₁-C₅ alkylamine, C₁-C₅, C₁-C₅ dialkylamine and substitutions in substituted compounds are halogen, C₁-C₅ alkyl and C₁-C₅ alkoxy;

R¹ is C=O;

R² is C₁-C₁₀ alkyl including branched alkyls;

R³ is hydrogen, amine, C₁-C₅ alkylamine, C₁-C₅, C₁-C₅ dialkylamine;

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$R^2 + R^3$ can form a cyclic alkyl, a C_1 - C_{10} alkyl substituted cyclic alkyl, a cyclic aliphatic amine, a C_1 - C_{10} alkyl substituted cyclic aliphatic amine, a heterocycle, a C_1 - C_{10} alkyl substituted heterocycle including a C_1 - C_{10} alkyl N-substituted heterocycle;

R^4 is Ar, R^2 or C_1 - C_5 alkoxy, a cyclic alkyl, a C_1 - C_{10} alkyl substituted cyclic alkyl, a cyclic aliphatic amine, a C_1 - C_{10} alkyl substituted cyclic aliphatic amine, a heterocycle, a C_1 - C_{10} alkyl substituted heterocycle and a C_1 - C_{10} alkoxy substituted heterocycle including a C_1 - C_{10} alkyl N-substituted heterocycle;

R^5 is C=NH;

R^6 is Ar, R^2 or C_1 - C_5 alkoxy, a cyclic alkyl, a C_1 - C_{10} alkyl substituted cyclic alkyl, a cyclic aliphatic amine, a C_1 - C_{10} alkyl substituted cyclic aliphatic amine, a heterocycle, a C_1 - C_{10} alkyl substituted heterocycle and a C_1 - C_{10} alkoxy substituted heterocycle including a C_1 - C_{10} alkyl N-substituted heterocycle; and,

R^7 is Ar, R^2 or C_1 - C_5 alkoxy, a cyclic alkyl, a C_1 - C_{10} alkyl substituted cyclic alkyl, a cyclic aliphatic amine, a C_1 - C_{10} alkyl substituted cyclic aliphatic amine, a heterocycle, a C_1 - C_{10} alkyl substituted heterocycle and a C_1 - C_{10} alkoxy substituted heterocycle including a C_1 - C_{10} alkyl N-substituted heterocycle; and,

ii) said DNA sequence operatively linked to regulatory sequences which control the expression of said DNA sequence.

59. (Previously Presented) The composition of claim 58 wherein said DNA molecule is a plasmid.

60-62. (canceled)

63. (Previously Presented) The composition of claim 58 wherein said antigen is a viral antigen.

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64. (Previously Presented) The composition of claim 63 wherein said pathogen is a virus selected from the group consisting of: human immunodeficiency virus, HIV; Human T cell leukemia virus, HTLV; influenza virus; hepatitis A virus; hepatitis B virus; hepatitis C virus; human papilloma virus, HPV; Herpes simplex 1 virus, HSV1; Herpes simplex 2 virus, HSV2; Cytomegalovirus, CMV; Epstein-Barr virus, EBR; rhinovirus; and, coronavirus.

65-114. (canceled)

115-121. (canceled)

122. (Previously Presented) A composition according to claim 58, wherein said polynucleotide function enhancer is a compound having the formula $Ar - R^1 - O - R^2 - R^3$.

123. (Previously Presented) The composition of claim 122 wherein said DNA molecule is a plasmid.

124. (Previously Presented) The composition of claim 122 wherein said antigen is a viral antigen.

125. (Previously Presented) The composition of claim 124 wherein said pathogen is a virus selected from the group consisting of : human immunodeficiency virus, HIV; Human T cell leukemia virus, HTLV; influenza virus; hepatitis A virus; hepatitis B virus; hepatitis C virus; human papilloma virus, HPV; Herpes simplex 1 virus, HSV1; Herpes simplex 2 virus, HSV2; Cytomegalovirus, CMV; Epstein-Barr virus, EBR; rhinovirus; and, coronavirus.

126-165 (canceled)